

CLAIMS

What is claimed is:

1. A vehicle comprising:
 - a frame;
 - a plurality of wheels;
 - an engine supported on said frame, said engine having a throttle system;
 - a transmission operably coupled between said engine and said plurality of wheels operable to transmit a driving force from said engine to at least one of said plurality of wheels;
 - a ground speed feedback shaft operably coupled with said transmission to provide a ground speed feedback torque in response to a ground speed of the vehicle;
 - an engine speed feedback shaft operably coupled with said engine to provide an engine speed feedback torque in response to a revolutionary speed of said engine;
 - a ground speed governor system operably coupled between said ground speed feedback shaft and said throttle system for limiting operation of said throttle system in response to said ground speed feedback torque; and
 - an idle speed governor system operably connectable between said engine speed feedback shaft and said throttle system for actuating said throttle system in response to said engine speed feedback torque.

2. The vehicle according to Claim 1, further comprising:

a lost motion device coupled between said idle speed governor system and said throttle system, said lost motion device operable to permit said ground speed governor system to operate said throttle system independently from said idle speed governor system.

3. The vehicle according to Claim 2 wherein said lost motion device comprises:

a generally planar member having an elongated slot, said elongated slot being sized to slidably receive a throttle linkage of said throttle system such that a driving force exerted upon said throttle linkage by said ground speed governor system is prevented from being transmitted to said idle speed governor system.

4. The vehicle according to Claim 3 wherein said elongated slot is further sized to exert a driving force upon said throttle linkage in response to said actuation of said idle speed governor system.

5. The vehicle according to Claim 2 wherein said idle speed governor system comprises:

an engine speed governor arm fixed for rotation with said engine speed feedback shaft;

an engine speed linkage member coupled between said engine speed governor arm and said lost motion device for selectively applying a first force to the throttle system as said engine speed governor arm is rotated in a first direction; and

a spring applying a biasing force against said engine speed governor arm into said first direction, said biasing force balancing with said engine speed feedback torque to limit said first force in response to said revolutionary speed of the engine.

6. The vehicle according to Claim 1 wherein said ground speed governor system comprises:

a ground speed governor arm fixed for rotation with said ground speed feedback shaft;

a throttle cable coupled to said ground speed governor arm for applying a first pulling force to the throttle system as said ground speed governor arm is rotated; and

an accelerator cable resiliently coupled with said ground speed governor arm for applying a second pulling force to said ground speed governor arm to induce rotation of said ground speed governor arm and apply a torque to said ground speed governor arm opposing said ground speed feedback torque, said torque balancing with said ground speed feedback torque to limit said first pulling force in response to said ground speed of the vehicle.

7. The vehicle according to Claim 6, further comprising:

a spring for resiliently interconnecting said accelerator cable and said ground speed governor arm, said spring biasing to enable balancing of said torque with said ground speed feedback torque.

8. A governor system for limiting the ground speed of a vehicle and maintaining an idle speed of the vehicle, said vehicle having an engine operably coupled with a transmission, said engine having a throttle system, said governor system comprising:

a first feedback shaft operably coupled with a transmission of the vehicle to provide a first feedback torque in response to a ground speed of the vehicle;

a second feedback shaft operably coupled with the engine to provide a second feedback torque in response to a revolutionary speed of the engine;

a ground speed governor system operably connectable between said first feedback shaft and said throttle system of the engine for limiting operation of said throttle system in response to said first feedback torque; and

an idle speed governor system operably connectable between said second feedback shaft and said throttle system of the engine for actuating said throttle system in response to said second feedback torque.

9. The governor system according to Claim 8, further comprising:

a lost motion device interconnectable between said idle speed governor system and said throttle system, said lost motion device operable to permit said ground speed governor system to operate said throttle system independently from said idle speed governor system.

10. The governor system according to Claim 9 wherein said lost motion device comprises:

a generally planar member having an elongated slot, said elongated slot being sized to slidably receive a throttle linkage of said throttle system such that a driving force exerted upon said throttle linkage by said ground speed governor system is prevented from being transmitted to said idle speed governor system.

11. The governor system according to Claim 10 wherein said elongated slot is further sized to exert a driving force upon said throttle linkage in response to said actuation of said idle speed governor system.

12. The governor system according to Claim 9 wherein said idle speed governor system comprises:

an engine speed governor arm fixed for rotation with said second feedback shaft;

an engine speed linkage member coupled between said engine speed governor arm and said lost motion device for selectively applying a first force to the throttle system as said engine speed governor arm is rotated in a first direction; and

a spring applying a biasing force against said engine speed governor arm into said first direction, said biasing force balancing with said second feedback torque to limit said first force in response to said revolutionary speed of the engine.

13. The governor system according to Claim 8 wherein said ground speed governor system comprises:

a ground speed governor arm fixed for rotation with said first feedback shaft;

a throttle cable coupled to said ground speed governor arm for applying a first pulling force to the throttle system as said ground speed governor arm is rotated; and

an accelerator cable resiliently coupled with said ground speed governor arm for applying a second pulling force to said ground speed governor arm to induce rotation of said ground speed governor arm and apply a torque to said ground speed governor arm opposing said first feedback torque, said torque balancing with said first feedback torque to limit said first pulling force in response to said ground speed of the vehicle.

14. The governor system according to Claim 13, further comprising:

a spring for resiliently interconnecting said accelerator cable and said ground speed governor arm, said spring biasing to enable balancing of said torque with said first feedback torque.

15. A governor system for limiting the ground speed of a vehicle and maintaining an idle speed of the vehicle, said vehicle having an engine operably coupled with a transmission, said engine having a throttle system, said governor system comprising:

a first feedback shaft operably coupled with a transmission of the vehicle to provide a first feedback torque in response to a ground speed of the vehicle;

a second feedback shaft operably coupled with the engine to provide a second feedback torque in response to a revolutionary speed of the engine;

a ground speed governor system operably connectable between said first feedback shaft and said throttle system of the engine for limiting operation of said throttle system in response to said first feedback torque; and

an idle speed governor system operably connectable between said second feedback shaft and said throttle system of the engine via a lost motion device for actuating said throttle system in response to said second feedback torque and permitting independent operation of said ground speed governor system.

16. The governor system according to Claim 15 wherein said lost motion device comprises:

a generally planar member having an elongated slot, said elongated slot being sized to slidably receive a throttle linkage of said throttle system such that a driving force exerted upon said throttle linkage by said ground speed governor system is prevented from being transmitted to said idle speed governor system.

17. The governor system according to Claim 16 wherein said elongated slot is further sized to exert a driving force upon said throttle linkage in response to said actuation of said idle speed governor system.

18. The governor system according to Claim 15 wherein said idle speed governor system comprises:

an engine speed governor arm fixed for rotation with said second feedback shaft;

an engine speed linkage member coupled between said engine speed governor arm and said lost motion device for selectively applying a first force to the throttle system as said engine speed governor arm is rotated in a first direction; and

a spring applying a biasing force against said engine speed governor arm into said first direction, said biasing force balancing with said second feedback torque to limit said first force in response to said revolutionary speed of the engine.

19. The governor system according to Claim 15 wherein said ground speed governor system comprises:

a ground speed governor arm fixed for rotation with said first feedback shaft;

a throttle cable coupled to said ground speed governor arm for applying a first pulling force to the throttle system as said ground speed governor arm is rotated; and

an accelerator cable resiliently coupled with said ground speed governor arm for applying a second pulling force to said ground speed governor arm to induce rotation of said ground speed governor arm and apply a torque to said ground speed governor arm opposing said first feedback torque, said torque balancing with said first feedback torque to limit said first pulling force in response to said ground speed of the vehicle.

20. The governor system according to Claim 19, further comprising:

a spring for resiliently interconnecting said accelerator cable and said ground speed governor arm, said spring biasing to enable balancing of said torque with said first feedback torque.